

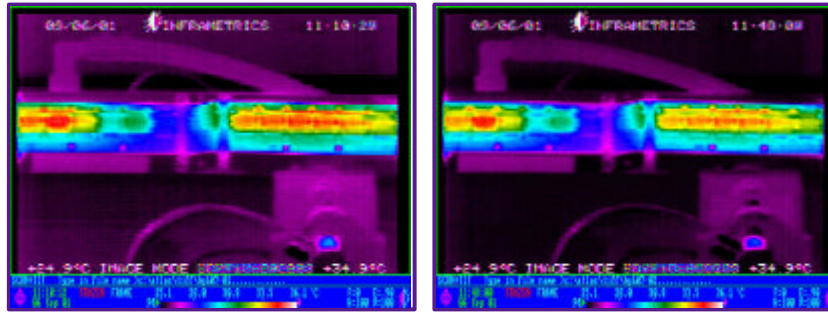
**IR images of hybrid from 27° C to 40° C**

**September 6, 2001**

**27° C at the thermistors - coolant/base temperature 25° C**  
 temperature at chip (from IR picture) ~31° C

At 11:10

At 11:48

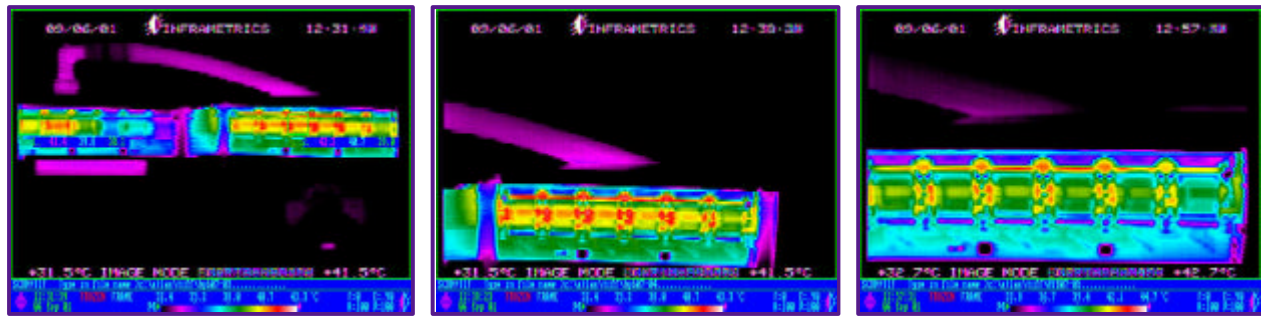


**37° C at the thermistors - coolant/base temperature 31.6° C**  
 temperature at chip (from IR picture) ~40.5° C

At 12:31

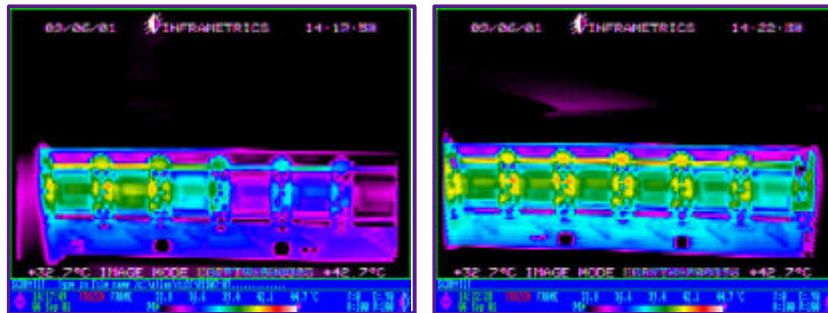
At 12:38

At 12:57 (detailed chips 6-11)



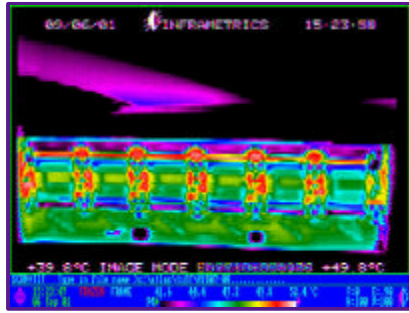
**Stream 0 chip 0-5 at 14:17**

**Stream 1 chip 6-11 at 14:22**

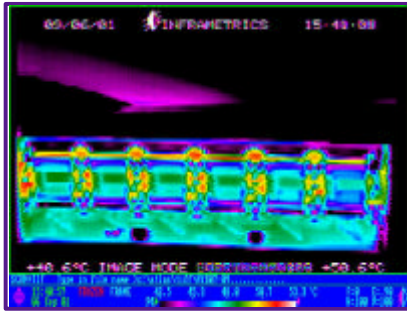


**46.5° C (and 47° C) at the thermistors - coolant/base temperature 39.2° C**  
 temperature at chip (from IR picture) ~48° C

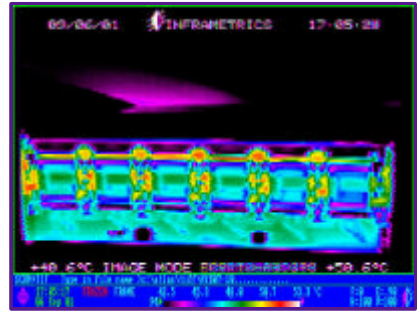
At 15:23 (more red)



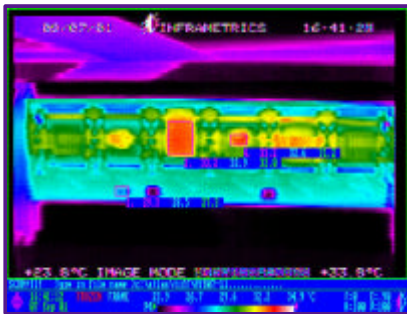
At 15:41 (less red)



At 17:05

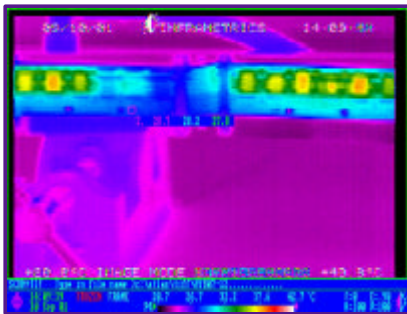


**September 7, 2001**

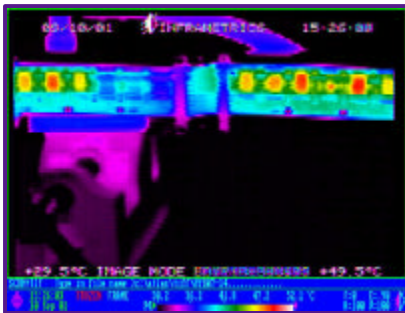
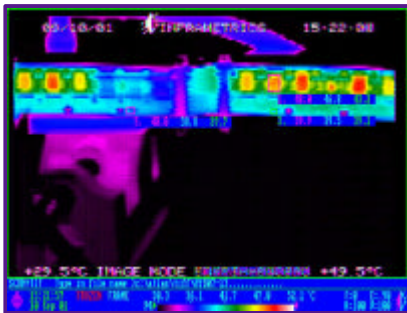


Temperature at thermistors 28° C.  
 Masking tape applied on chip 8 in order to detect real temperature (32.9° C)  
 at the chip with IR camera since the silicon of the IC's is "transparent" in the IR wavelength.  
 The temperature at chip 7 and 9 is measured with an RTD to verify correct measurement (32.5° C and 32.6° C).  
 Hot spots on chip 7 and chip 9 are due to the residual of silicone hit sink compound used to make a good contact with the RTD.

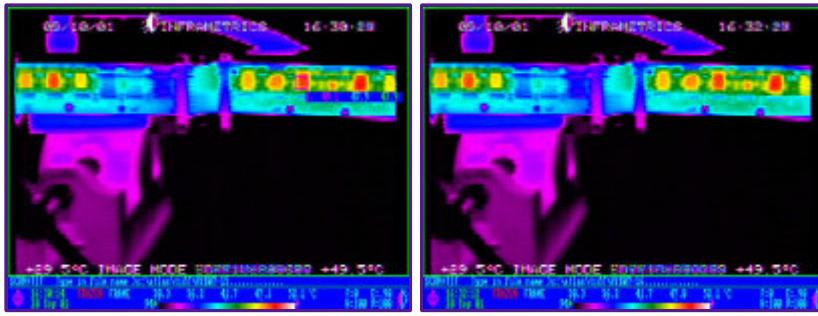
**September 10, 2001**



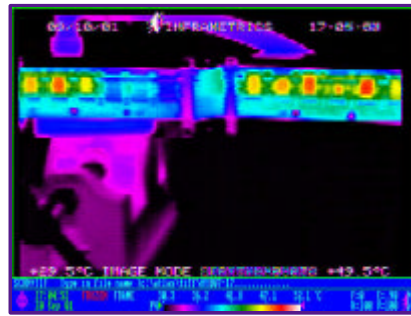
The system is turned on again after we applied mask tape to every chip.  
 Temperature at thermistors 30° C (28.3° C left, 29.3° C right).  
 Temperature with IR camera at chip 7 is 36.5° C and at chip 10 is 37.8° C.  
 RTD at chip 9 measures 36.5° C.



Temperature at thermistors is now 40° C  
 (5.85 KOhms and 6.26 KOhms).  
 Temperature at chip 7 is 47.4° C  
 Time: 15:22 and 15:26



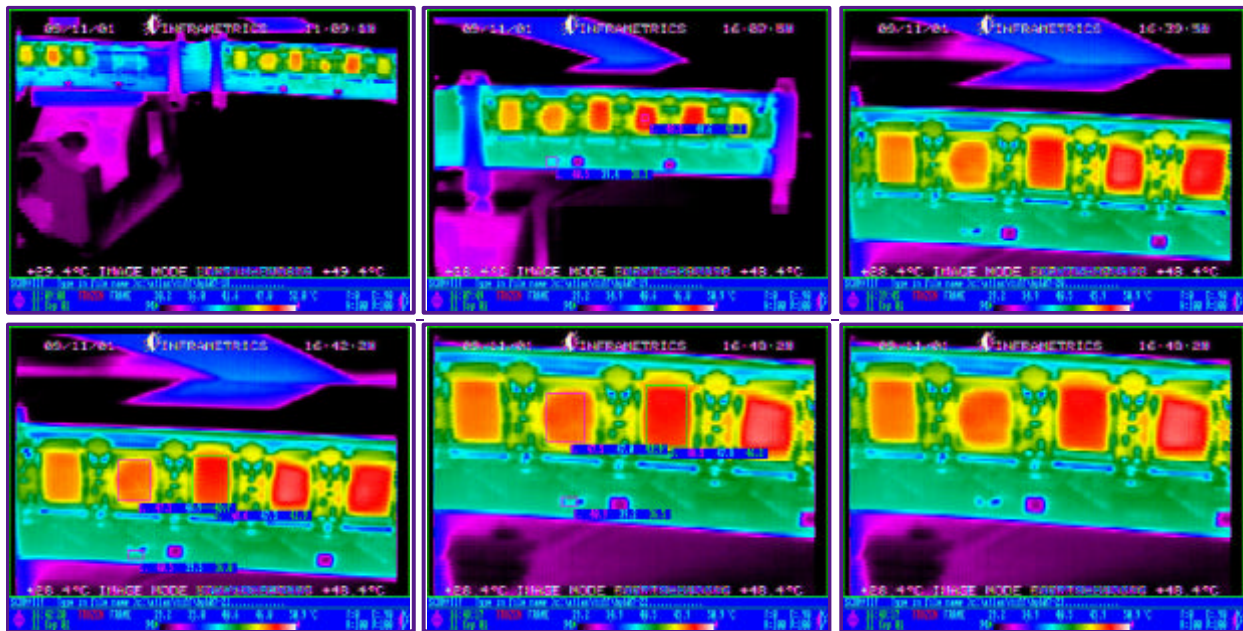
Time: 16:30 and 16:32



Time: 17:03

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**September 11, 2001 after one night of running**



The hotter spot at the center of chip 11 is likely due to an air gap.  
The chip was cleaned from silicone residuals and had hard time to stick the masking tape.